For the purpoſe of raiſing the boat out of the upper canal, in order to move her over the pit previous to deſcending, there is a reſervoir, D, formed in the ſide of the tub-pit near the bottom, *Fig.* 3. *Plate* 10, and of a ſize to contain about thirty tons of water: at the time the cage is in the upper canal, the tub will be beneath this reſervoir, from which water muſt be drawn into the tub till a preponderating power is created; the tub will then deſcend about eight feet, raiſing the cage and boat out of the upper canal. The cranes are then moved over the pit, and a portion of water diſcharged from the tub, till the boat preponderates; which, deſcending to the lower canal, will raiſe the tub to near the upper level, in the ſituation exhibited in the third Figure; where a valve opening, by means of the lever at E, the water from the tub paſſes into a pipe, and deſcends to the reſervoir, *in order to raiſe the next boat out of the upper canal*, leaving the boat to float in the lower pond.

To raiſe a boat from the lower pond, and paſs her into the upper canal, water muſt be drawn from the upper canal into the tub by the pipe F, till a preponderating power is created; which deſcending, will raiſe the boat about one foot above the upper pond; the cranes are then turned over the canal, and the water being diſcharged from the tub, the boat will immediately float in the upper level.

To regulate the movement of this machine, the centrifugal fans are applied, as repreſented in Plate IX. Alſo the balance chains to the tub, as in Plate X. Fig. III.

The

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